

University of Wisconsin – Eau Claire

The Role of Geography on the Morning of July 1, 1863

History 489

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*Abstract*

The Battle of Gettysburg has been studied extensively through a variety of lenses, but it has been overlooked by military geographers. Every piece of literature on the Battle of Gettysburg does pay respect to geography, but this paper is different. It goes beyond the world of elevation disparity and explores other dimensions of both physical and human geography through the scope of the first encounters on July 1, 1863, between the Army of Northern Virginia and the Army of the Potomac. Proven through the use of primary and secondary source material, this paper shows that the Battle of Gettysburg occurred the way it did in history because of the location and proper utilization of geographic resources, both human and physical.

“The world will little note, nor long remember what we say here,  
but it can never forget what they did here.”

- Abraham Lincoln, *Gettysburg Address*

November 19, 1863

## ***Introduction***

The small town of Gettysburg would never had guessed that it was about to play a pivotal role in the Civil War. As the sun began to rise on July 1<sup>st</sup>, 1863, Confederate Major General Henry Heth's division was sent towards the town of Gettysburg marking the first large Confederate force to be sent, which was the spark that created the Battle of Gettysburg .<sup>1</sup> Over the course of the next three days, over 50,000 of the almost 170,000 American soldiers would lose their lives in Pennsylvania in the bloodiest battle of the entire Civil War.<sup>2</sup>

Although well over a century ago, the Battle of Gettysburg has still been studied extensively by a variety of disciplines such as history and geography, but the Battle of Gettysburg has proven to be invaluable to the study of military science. However, scholars have seemed to pass the opportunity to study the battle with the viewpoint of military geography.

It is important to point out that geography has been talked about in literature, but never in such a scope as military geography. Every book on Gettysburg will mention some of Gettysburg's heights, hills, and dens. However, the approach that this paper is taking on the subject is much different than anything written before. This paper takes in account other geographic factors besides elevation disparity, even going into the realm of human geography. Understanding how geography relates to the Battle of Gettysburg involves much more than how having the advantage of a natural barrier affects death

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<sup>1</sup>Steven E. Woodworth, *Beneath a Northern Sky: A Short History of the Gettysburg Campaign* (Delaware: Scholarly Resources Inc, 2003), 47.

<sup>2</sup>J. Matthew Gallman, "Gettysburg's Gettysburg: What the Battle Did to the Borough," in *The Gettysburg Nobody Knows*, edited by Gabor S. Boritt (New York: Oxford University Press, 1997), 144.

ratios. Looking at the Battle of Gettysburg through a military geography lens involves combining both human and physical geographic factors and understanding them through a historical lens and primary sources.

## *Military Geography*

Historically speaking, military geography did not become recognized until World War I once the utilization of hot air balloons became necessary with the trench warfare notorious to the Western Front.<sup>3</sup> However, the conscious decisions behind using geography in warfare in the Western world existed for centuries before this. A recognizable example of early military geography at work would be the Battle of Thermopylae of 480 BC when Sparta and a Greek alliance of 7,000 held off a Persian army over 15 times its size for three days through use of the Pass of Thermopylae: hand-picked for its narrow passage and its borders of high cliffs and the Gulf of Malis.<sup>4</sup>

Military geography also has early roots found in the Eastern world as well. For instance, it can be seen in Sun Tzu's *The Art of War*: the quintessential manuscript for the eastern philosophy of warfare. In fact, Sun Tzu found military geography so important, he devoted Chapter X: Terrain and Chapter XI: The Nine Varieties of Ground to how geography affects warfare and even classified terrain into smaller parts "according to its natures as accessible, entrapping, indecisive, constricted, precipitous, and distant" in order to show how much reliance eastern philosophy has on geography.<sup>5</sup>

Military geography then continued to evolve through the ages, through the changing of technology. Different weaponry actually drove military geography to

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<sup>3</sup>Hupy, Joseph, lecture given at the University of Wisconsin-Eau Claire to Geography 499: Military Geography, September 24<sup>th</sup>, 2008, Eau Claire, Wisconsin.

<sup>4</sup> Paul Cartledge, *Thermopylae: The Battle that Changed the World* (New York: Random House Inc, 2007), 141-152.

<sup>5</sup> Sun Tzu, *The Art of War*, translated and with an introduction by Samuel Griffith, foreword by B.H. Liddell Hart (New York: Oxford University Press, 1963), 124.

become even more important. Not only did a conscious decision need to be made about how geography would affect soldiers, but the question of how geography would affect the weaponry of the time emerged. Military geography has become synonymous with warfare, and it can be seen through multiple scopes. An unused, yet great scope to view military geography through is the Battle of Gettysburg.

The geography of Gettysburg battlefield can be split into two distinct components: human and physical. Human geography is also influential on a battlefield and the landscape. In terms of the Battle of Gettysburg, it can be broken into multiple subdivisions, but this paper will focus primarily on buildings and roads. The physical geography includes the geography that most people commonly interpret as what geography is. Specifically, it will be broken into two subdivisions for purposes of this paper: land cover and climatic factors

It is the combination of these geographic factors that directed how the Battle of Gettysburg. Without one of these aspects, the battle would not have occurred exactly the way it did. The Battle of Gettysburg occurred the way it did in history because of the location and proper utilization of geographic resources, both human and physical.

## *The Cast of Characters*

The first step in better understanding the Battle of Gettysburg is to become acquainted with the cast of characters who played a part; however, as is with all historical events, the Battle of Gettysburg has a very large community of people who play a role, and it can be difficult to narrow down the list in order to understand who is actually important to the fighting on the morning of July 1, 1863. First, we will focus on the Confederacy, starting from the top of the chain of command and going to the bottom, and then move onto the Union.

General Robert E. Lee was the highest ranking officer in charge of the Battle of Gettysburg for the Confederacy. The Army of Northern Virginia, the largest army of the Confederacy, was directly under his command. Although he will go down in history as a great military leader, the defeat is ultimately associated to him after the three day battle in Pennsylvania. Directly under General Lee's command were Lieutenant General Ambrose Powell Hill, usually referred to A.P. Hill and who was the Confederate commander responsible for the action at Herbst Woods and the Railroad Cut, and Lieutenant General Richard Ewell, who was ultimately responsible for the collapse of the Union line and subsequent retreat of the Union forces through Gettysburg to Cemetery Hill.

Under Lieutenant General A.P. Hill was Major General Henry Heth: the first Confederate military leader to make contact with Union forces in the early morning of the first day at Gettysburg. Under Major General Heth were two of his brigade commanders:

Brigadier General James Archer and Brigadier General Joseph Davis.<sup>6</sup> Brigadier General Archer was primarily involved in the action at Herbst Woods, while Brigadier General Davis fought the 6<sup>th</sup> Wisconsin at the Railroad Cut.

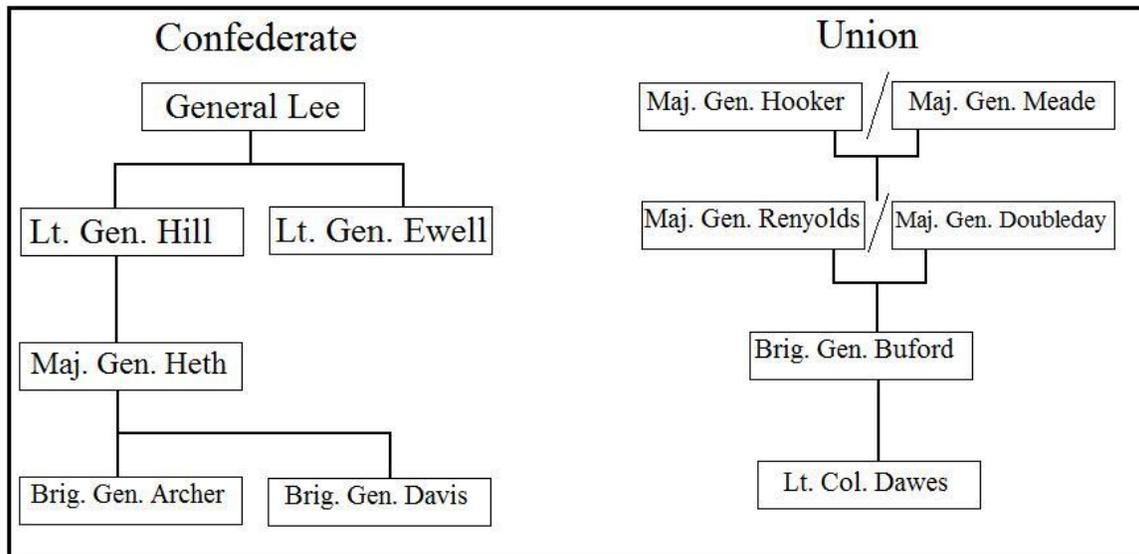


Figure 1: General Lee, Major General Hooker, Major General Meade, and important subordinates on July 1, 1863. Reproduced with permission from Jonathan Laager.

The top of the chain of command in the Union army was Major General Joseph Hooker leading up to the Battle of Gettysburg and Major General George Meade during the battle. Although they were both commanders of the Army of the Potomac, the largest army in the Union, the both played very different roles. It is also important to note that, although he did not have a direct influence on the opening events at Gettysburg, President Abraham Lincoln did play a part in orchestrating the Battle of Gettysburg.

Under the Major Generals of the Army of the Potomac was Major General John Reynolds, best known for his actions and subsequent death in the area around Herbst

<sup>6</sup> Although its importance to the Battle of Gettysburg is nonexistent, it is important to note that Joseph Davis is the nephew of Jefferson Davis: President of the Confederate States of America. Rufus Dawes, *Service with the Sixth Wisconsin* (Madison, Wisconsin: State Historical Society of Wisconsin, 1962), 171.

Woods. After Reynolds' death, Major General Abner Doubleday took field command over Union forces at the Battle of Gettysburg. Brigadier General John Buford would fall next on the chain of command: the brigadier general who bought valuable time for the advancing Army of the Potomac to get to Gettysburg. Lieutenant Colonel Rufus Dawes of the 6<sup>th</sup> Wisconsin would fall beneath him. It is also important to note that Dawes' 6<sup>th</sup> Wisconsin was part of the infamous Iron Brigade: a well-known, battle-hardened group of soldiers from Midwest states who found one of their proudest and final moments in Herbst Woods at the Battle of Gettysburg.

Although there were obviously many more characters in the Battle of Gettysburg, it will be much easier to understand background information of the beginnings of the battle. Other names may be mentioned during the summary of the first morning of the battle, but those names can easily be quickly mentioned without another thought of exactly who they are. It is next vital to understand a rough overview of the events at Gettysburg: not only the skirmishes during the morning of July 1, 1863, but also certain events which led up to the Battle of Gettysburg.

### *The Battle of Gettysburg: Preparation and the Morning of July 1, 1863*

The real origins of the Battle of Gettysburg can be associated with General Lee's invasion of the North. After the upsetting Confederate victory at the Battle of Chancellorsville, Lee's Army of Northern Virginia began to press through into Maryland and eventually pushed even further into Pennsylvania. For Lee, not only was this a great opportunity to wage war in enemy territory, but it was also a good way to acquire sympathy from citizens from the North in order for support to begin to crumble for the Union army and what it stood for.<sup>7</sup>

In the Union army, Major General Hooker began to feel the heat for his embarrassing loss to the Army of Northern Virginia at Chancellorsville against the higher number of soldiers in the Army of the Potomac. However, President Lincoln urged General Hooker and his Union army to chase after them. It was imperative that the Army of the Potomac rushed to Pennsylvania since there were no troops there to fight the Confederates "except for untrained militia units which could no more stand up to the Army of Northern Virginia than a high school football team could stand up to the Green Bay Packers."<sup>8</sup> However, on June 28, 1863, President Lincoln, Secretary of War Edwin M. Stanton, and General in Chief Henry W. Halleck had finally lost their confidence in General Hooker and subsequently relieved and replaced Hooker immediately with Major

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<sup>7</sup> Bruce Catton, *Gettysburg: The Final Fury* (Garden City, New York: Doubleday & Company, Inc., 1974), 7.

<sup>8</sup> Bruce Catton, *The Battle of Gettysburg* (New York: American Heritage Publishing Co., Inc., 1963), 19.

General Meade.<sup>9</sup> This major change took place only three days before the Battle of Gettysburg.

However, news of the change in command and the moving Union army soon reached General Lee. Although a bit surprised since he had left cavalry behind to keep an eye on movements and had not heard anything so assumed the Army of the Potomac was not moving, General Lee decided to bring all of his forces together and converge on the small farming community in South Pennsylvania where all the roads seem to intersect: Gettysburg.

Before any Confederate soldiers get to Gettysburg, Major General Meade sent Brigadier General Buford and his cavalry to scout out the town. Behind Buford, Meade sent Major General Reynolds with the Army of the Potomac. Although Meade was not exactly sure where General Lee was going to attack, he made the assumption that Lee would move into Gettysburg. After arriving at Gettysburg on June 30, 1863, Buford saw a Confederate scouting party and decided to dig in and prepare for impending battle Buford knew was coming.<sup>10</sup>

The first Confederate forces to arrive at Gettysburg on July 1 were under Lieutenant General A.P. Hill who came from Cashtown, Pennsylvania, northwest of Gettysburg. The leading division of Hill's forces was commanded by Major General Henry Heth, and his forces were the first to encounter Union soldiers at Gettysburg: Buford's cavalry.

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<sup>9</sup> Bruce Catton, *Gettysburg: The Final Fury* (Garden City, New York: Doubleday & Company, Inc., 1974), 17.

<sup>10</sup> David G. Martin, *Gettysburg July 1* (Cambridge, Massachusetts: Da Capo Press, 1995), 43.

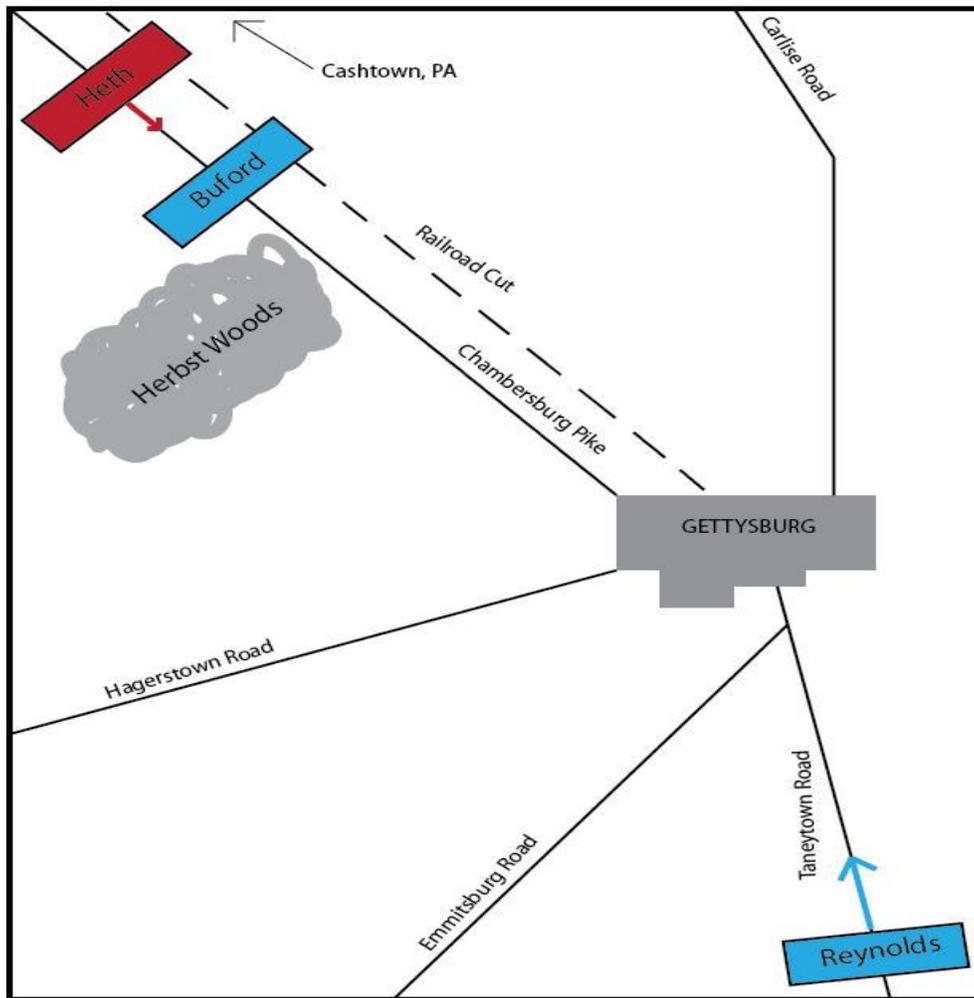


Figure 2: Buford holding Heth with Reynolds on the way. Ironically, the South came from the north and the North came from the south. Reproduced with permission from Jonathan Laager.

After engaging with Heth's division, Buford sent word to Reynolds that the Confederates were attacking at Gettysburg; Reynolds marched double time to get to Gettysburg as quickly as he could. He knew as well as Buford did that the Union cavalry could not hold back a much larger force of infantry for very long. Before long, Heth

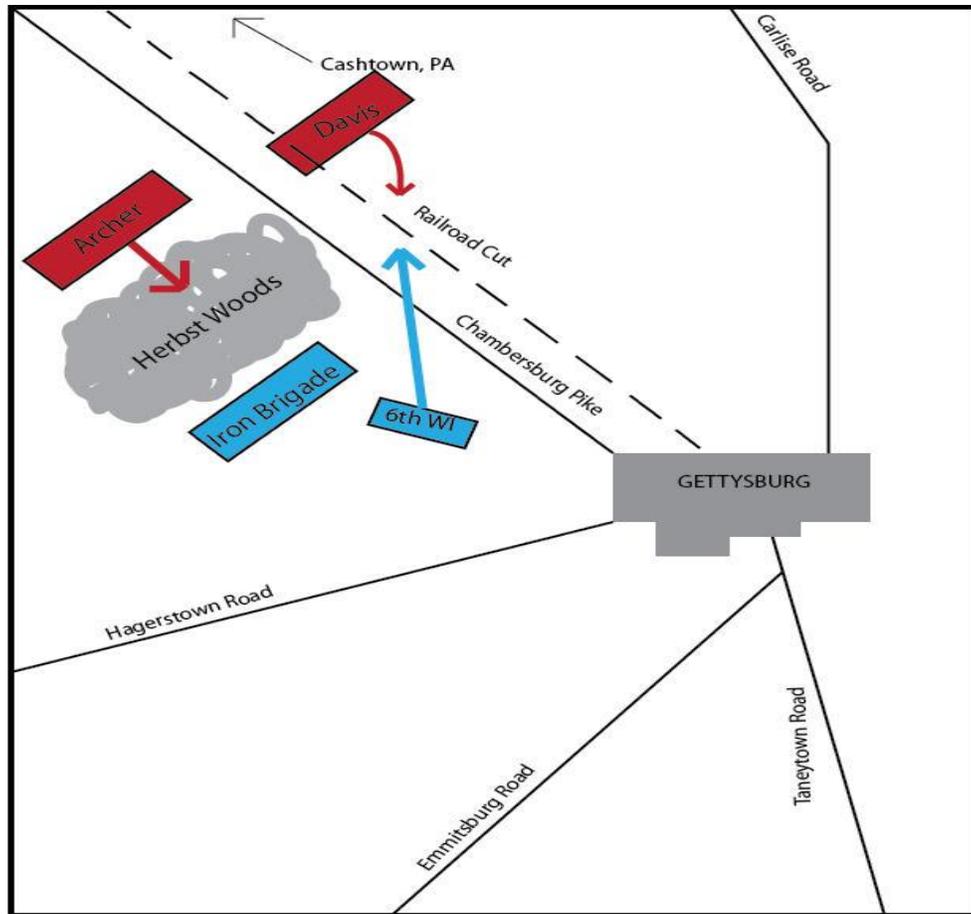


Figure 3: Iron Brigade versus Archer and Davis. Reproduced with permission from Jonathan Laager.

pushed Buford back to Herbst Woods.<sup>11</sup> Fortunately for Buford, Major General Reynolds had just arrived.

Reynolds immediately began preparing his troops for battle. Into Herbst Woods, he deployed the black hat Iron Brigade: a division made up of the 2<sup>nd</sup>, 6<sup>th</sup>, and 7<sup>th</sup> Wisconsin, the 19<sup>th</sup> Indiana, and the 24<sup>th</sup> Michigan, that was known as being one of the best fighting units in the Army of the Potomac. However, immediately after starting the

<sup>11</sup> The woods is more commonly, but incorrectly, referred to as McPherson's Woods. Although located near the infamous McPherson farm, the woods actually belong to their neighbor: John Herbst. Steven E. Woodworth, *Beneath a Northern Sky: A Short History of the Gettysburg Campaign* (Delaware: Scholarly Resources Inc, 2003), 55.

offensive, Reynolds was struck by a bullet and died on the battlefield; Major General Doubleday was immediately informed that he was now in charge.<sup>12</sup>

On the Confederate side, Heth ended up devoting both of his divisions to this battle. The division commanded by Brigadier General Archer pushed into Herbst Woods, while Brigadier General Davis pushed towards Gettysburg a bit further northeast of this location. Heavy fighting occurred with both Archer and Davis, but they both ended in defeat for the Confederates: at least temporarily.

In Herbst Woods, Major General Archer began chasing after the remnants of Buford's cavalry. However, Archer was not planning on meeting the Iron Brigade on the other side of the woods. After heavy fighting, Archer's division was not only defeated, but General Archer himself was captured by the Iron Brigade. Although they did experience victory against Archer's brigade, Heth would send another division to dismantle and repel the remnants of the Iron Brigade.

To the northeast of this action, Davis began to work his way towards the Iron Brigade to flank the outside and collapse their line. However, before Reynolds had been shot, he had left the 6<sup>th</sup> Wisconsin as a reserve unit behind the rest of the Iron Brigade charging into Herbst Woods. Once word reached Lieutenant Colonel Rufus Dawes of Davis' actions, Dawes turned his troops to intersect Davis. However, Davis' troops taken up a defensive position in an unfinished railroad cut: a deep trench they would dig in the ground to lay down rail lines. Soon to be joined by the 95<sup>th</sup> New York and 14<sup>th</sup> Brooklyn regiments, Dawes called a charge against the railroad cut which resulted in heavy losses.

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<sup>12</sup> Stephen W. Sears, *Gettysburg* (New York: Houghton Mifflin Company, 2004), 168 -170.

However, the Union soldiers soon reached the railroad cut and were able to force the surrender of the Confederate colors<sup>13</sup> and captured many prisoners.<sup>14</sup>

However, the tide at Gettysburg would soon turn. Heth would soon send more divisions against the Iron Brigade. Lieutenant General Ewell would arrive from the northeast of Gettysburg to attack Union forces. The Union line would soon bend and break against Confederate tactics. All of these events would lead to the eventual retreat of Union forces south, through Gettysburg, to the defensible Cemetery Hill.<sup>15</sup>

Over the next two days, bitter fighting across the landscape would lead to countless deaths and a turning point in the Civil War: the Union would come out victorious. Lee retreated back to Virginia, but the Army of the Potomac would not chase them. Although the war was far from over, the Battle of Gettysburg played a major role in ending it. However, there is more to the story. It is important to take apart the different aspects of exactly how the Battle of Gettysburg played out: from troop movements to weaponry. One major aspect of Gettysburg that may seem to become overlooked is perhaps one of the most obvious: the roads.

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<sup>13</sup> Referring to a regiment's flag

<sup>14</sup> Rufus Dawes, *Service with the Sixth Wisconsin* (Madison, Wisconsin: State Historical Society of Wisconsin, 1962), 164-173.

<sup>15</sup> Ironically, there was a sign posted in Gettysburg at Cemetery Hill before the battle had begun, threatening a \$5 fine to anyone who dare fire a gun within the cemetery. Bruce Catton, *The Battle of Gettysburg* (New York: American Heritage Publishing Co., Inc., 1963), 39.

## *The Battle of Gettysburg: Human Geography*

### *Roads*

The most influential human geographic aspect to the Battle of Gettysburg was the road. In fact, it is the main reason the Battle of Gettysburg took place in the town of Gettysburg and not some other small town in Pennsylvania. After some time of being in the North, Lee decided to join all of his forces together. Obviously, the place of his choosing was Gettysburg, Pennsylvania, and it was because there were many roads that converged right at Gettysburg.<sup>16</sup> By using the roadways, the Army of Northern Virginia would much more easily be able to get to Gettysburg.<sup>17</sup>

The Union also used the roadways to their advantage. Many of the North's forces arrived as quickly and efficiently as they did because the roadways were in place. For instance, Colonel Elisha Hunt Rhodes of Company D, 2<sup>nd</sup> Rhode Island Volunteers, was able to push his troops 34 miles between 9pm on July 1, 1863, to 2pm on July 2, 1863, averaging 2 miles per hour with his men. Although the number does not seem

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<sup>16</sup> It is important to note that some sources disagree with exactly why the Confederates went to Gettysburg. Although modern scholars seem to agree that it was because Lee wanted to use the roads, some primary source material claims that Major General Heth had wanted to go into Gettysburg to look for shoes. For example, General Edward Porter Alexander of the Army of Northern Virginia states that "Gen. Heth of Hill's corps heard that there were plenty of shoes in the stores in Gettysburg & he asked permission of A.P. Hill to go there and get some for his men, who were in great need of them [ . . . ] on July 1<sup>st</sup> Heth's whole division started to Gettysburg to get shoes." Although General Alexander clearly states that Heth was going for shoes, plenty of secondary material has stated that there were very few shoes for soldiers and no shoe factory in Gettysburg. However, time did not allow extremely deep research into this topic so I cannot justify or deny this theory. I can only provide the fact that it exists to the reader. Edward Porter Alexander, *Fighting for the Confederacy: The Personal Recollections of General Edward Porter Alexander* (Chapel Hill: University of North Carolina Press, 1989), 231.

<sup>17</sup> Bruce Catton, *The Battle of Gettysburg* (New York: American Heritage Publishing Co., Inc., 1963), 39.

exceedingly high, it is important to take into account what time of day these men were marching: nighttime. According to Colonel Rhodes, “[his men] struggle[d] on through the night, the men almost dead for lack of sleep and falling over their own shadows.” Had the roadway not been utilized in the fashion that it was, traveling an average of two miles per hour would be completely unfeasible and many of the troops on both sides would not have arrived in time to make a difference at Gettysburg.

Another very important use for roadways was a medium for communication between regiments and commanders. During the Battle of Gettysburg, Major General Meade stationed his headquarters at Taneytown, Pennsylvania: around 12 miles south of Gettysburg. Around noon on July 1, Meade had sent Major General Hancock out to Gettysburg to relieve Doubleday of his command: the one forced on him after Reynold’s death in Herbst Woods. When Meade sent him, he ordered Hancock to send report as soon as he could of what was happening. Hancock did just that, in the form of Captain I.B. Parker. At 4pm, Hancock sent Parker with word about the battle, and at 5:25pm, the message was received by Meade.<sup>18</sup> This sort of communication was vital to the military operations happening at Gettysburg, and averaging over 12 miles per hour to get the message only aided in the process. If the roads were either not in place or not utilized as efficiently as they were, communication during the Battle of Gettysburg would not have been as rapid and, as a consequence, not as effective. However, roads are not the only human geographic factor that was important to the Battle of Gettysburg; buildings were also significant.

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<sup>18</sup> George Meade, “Major General Meade (First Appearance”, *The Union Generals Speak* (Louisiana: Louisiana State University Press, 2003), 105.

## *Buildings*

One very important use for buildings at Gettysburg was for military operations. Not only could they be used as headquarters, such as Meade's headquarters in Taneytown, but they could also be an exceptional place to survey the battlefield. In the morning on July 1, Buford did just that. On a ridge behind the line Buford's cavalry was fighting Heth's initial attacks from stood the Lutheran Theological Seminary. From this vantage point, Buford was able to review the landscape.<sup>19</sup>

Another prominent use of buildings was that of a field hospital. In many ways, this would bring the war much closer to home for the civilians of Gettysburg, but the utilization of homes and other buildings as field hospitals was necessary, even if the building wasn't designated as a hospital. For instance, one of Rufus Dawes' men was in such a situation. After collecting Confederate soldiers and the regiment's colors, Dawes entrusted the colors to Sergeant William Evans in Company H, who Dawes referred to as a "brave and true man." During the fighting, Evans had been severely wounded in both of his thighs and then to use two muskets as crutches to move once everyone was heading back to camp. Dawes trusted Evans with the enemy's colors and wrapped it around his body for safe-keeping. However, once in town, Evans became very weak and fainted from loss of blood. Two young women found him, assisted him to their home, and cared for him. However, Confederate victory cheers could be heard outside the window, and it was clear that the Confederates controlled Gettysburg. Evans pleaded with the women to

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<sup>19</sup> Steven E. Woodworth, *Beneath a Northern Sky: A Short History of the Gettysburg Campaign* (Delaware: Scholarly Resources Inc, 2003), 53.

hide the colors, so they sewed it into the mattress. Once the Confederates were pushed out of Gettysburg, Evans was safely able to bring it back to Dawes.<sup>20</sup>

This is one of many examples of the utilization of buildings as a field hospital, even if there are not multiple patients inside. Had these temporary hospitals not been made use of, more soldiers would have died at Gettysburg. It is clear to see that human geography played an important role at the Battle of Gettysburg, but physical geography factors such as land cover were also vital.

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<sup>20</sup> Rufus Dawes, *Service with the Sixth Wisconsin Volunteers* (Madison, Wisconsin: State Historical Society of Wisconsin, 1962), 170-171.

## *The Battle of Gettysburg: Physical Geography*

### *Land Cover*

One of the most important physical geographic factors in the Civil War was land cover. Since infantry, cavalry, and man-moved artillery defined this era of war, understanding what sort of land cover soldiers would come in contact with was vital to winning any battle, including Gettysburg. This is apparent by looking at various memoirs. For example, Colonel Frank Haskell of the Army of the Potomac mentions the land cover vividly in his memoirs:

Between these ridges, and along their slopes, that is, in front of the Second and Third Corps, the ground is cultivated, and is covered with fields of wheat, now nearly ripe, with grass and pastures, with some peach orchards, with fields of waving corn, and some farm houses, and their out buildings along the Emmetsburg road. There are very few places within the limits mentioned where troops and guns could move concealed. There are some oaks of considerable woods immediately in front of the right of the Second Corps, a group of small trees, sassafras and oak, in front of the right of the Second Division of this Corps also; and considerable woods immediately in front of the left of the Third Corps, and also to the West of, and near Round Top.<sup>21</sup>

It is clear that Haskell had great attention to detail when it came to land cover at Gettysburg. Note that he not only takes into account natural land cover, such as wheat, peach orchards, and trees, but he also takes in human geographic land cover, such as Emmetsburg road and farm houses. Clearly, understanding the land cover was very important and could be the difference between victory and defeat.

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<sup>21</sup> Frank Aretas Haskell, *The Battle of Gettysburg* (Madison, Wisconsin: Wisconsin History Commission, 1910), 27.

This passage also pinpoints another major role land cover plays in warfare: the concealment of troops. As previously mentioned, infantry, cavalry, and man-moved artillery were defining of the Civil War era and attempting to move, conceal, or find cover for any of these proved to be difficult. Interestingly enough, Gettysburg has quite a collection of natural boulders around the countryside to use as cover. Edwin Bryant remarks on these saying that “the enemy before us were well sheltered by the huge boulders that lie like hundred of sleeping elephants [. . .].”<sup>22</sup> Although perhaps a bit over dramatic, Bryant’s words are able to capture exactly what these boulders were like. Needless to say, they were used by both North and South as extremely useful cover during the battle.

A couple more clear examples of land cover use can be seen when looking closer at the action between Dawes and Davis at the Railroad Cut. When Rufus Dawes ordered the 6<sup>th</sup> Wisconsin to charge the Railroad Cut Davis was seeking cover from, it can be assumed that he knew the risk taken. Due to the land cover in the grass field, many of his soldiers died, as can be see in the following passage from his memoirs:

With the colors at the advance point, the regiment firmly and hurriedly moved forward, while the whole field behind streamed with men who had been shot, and who were struggling to rear or sinking in death upon the ground. The only commands I gave, as we advanced, were, “Align on the colors! Close up on the colors! Close up on the colors!” The regiment was being so broken up that this order alone could hold the body together. Meanwhile the colors fell upon the ground several times but were raised again by the heroes of the color guard. Four hundred and twenty men started in the regiment from the turnpike fence, of whom about two hundred and forty reached the railroad cut.<sup>23</sup>

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<sup>22</sup> Edwin E Bryant, *History of the Third Regiment of Wisconsin Veteran Volunteer Infantry, 181-1865* (Madison, Wisconsin: Veteran’s Association, 1891), 199.

<sup>23</sup> Rufus Dawes, *Service with the Sixth Wisconsin Volunteers* (Madison, Wisconsin: State Historical Society of Wisconsin, 1963), 168.

However, Davis and his Confederate soldiers had used the land cover to their great advantage, at least temporarily. From the Railroad Cut, Davis and his men very easily shot down almost half of Dawes' 6<sup>th</sup> Wisconsin as they sprinted towards the cut. However, once Dawes reached the Railroad Cut, the blessing of the cut soon became the Confederates' curse. Union soldiers were now able to shoot down towards the Confederates, as well as flank the cut and shoot straight down the tracks. Because of the land cover, Davis had to be forced into surrender by the Union soldiers. Needless to say, land cover is extremely important to warfare and the Civil War, but climatic factors are equally as important.

### *Climatic Factors*

The level and type of precipitation has always played an important part of warfare even though the instance of precipitation played very little part at Gettysburg; in fact, it was mostly sunny during the three day battle. However, it had rained in the very early morning hours of July 1<sup>st</sup>, 1863, which would lead to two other important factors: humidity and temperature<sup>24</sup>. When the sun out, the heat became intense, and it soon became coupled with a high humidity<sup>25</sup>. The largest effect this had been on the troops and their morale: the higher the temperature and humidity, the lower the troop morale.

Another important climatic factor in warfare is the presence, or lack, of wind. At Gettysburg, the lack of wind became an important factor. After the initial push into McPherson's Woods, a thick cover of smoke, a product of fired soldiers' rifles, covered

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<sup>24</sup> Steven E. Woodworth, *Beneath a Northern Sky: A Short History of the Gettysburg Campaign* (Delaware: Scholarly Resources Inc, 2003), 47.

<sup>25</sup> Warren W. Hassler Jr, *Crisis at the Crossroads: The First Day at Gettysburg* (Alabama: University of Alabama Press, 1970), 26.

the area; this became problematic for soldiers when attempting to decipher between friend and foe<sup>26</sup>. Although climatic factors are something normally not associated with warfare, it is clear to see that it plays a very important part.

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<sup>26</sup> Stephen W. Sears, *Gettysburg* (New York: Houghton Mifflin Company, 2004), 171.

## *Conclusion*

In conclusion, it is clear to see that geography was vital to the way that the Battle of Gettysburg played out. Had the geographic conditions been slightly adjusted, it is very probably that the battle would have turned out quite differently. It was through the presence and proper utilization of geographic resources that the Battle of Gettysburg happened.

If the road system had not been put in place, the Confederate troops would not have converged on Gettysburg. Had the road system not been utilized properly, feeding troops and receiving communication to and from the battlefield would have been an impossible feat for the Union. If the buildings had not been used for temporary hospitals, many more soldiers would have lost their lives at Gettysburg.

Utilizing the land cover at Gettysburg was vital to the Union's success. However, when looking at the 6<sup>th</sup> Wisconsin's charge on the Railroad Cut, it is clear to see that land cover can also be an extremely deadly thing. Climatic factors also played a huge role at the Battle of Gettysburg.

Clearly, the role of geography is underrated when it comes to warfare, but the point has been proven that the utilization and placement of geography is essential to warfare. By better understanding the environment, one can benefit from natural advantages. Warfare is not only about how warfare affects geography, but about how geography affects warfare.

## **Bibliography**

### Primary Sources

- Alexander, Edward Porter. *Fighting for the Confederacy: The Personal Recollections of General Edward Porter Alexander*. Edited by Gary W. Gallagher. Chapel Hill: University of North Carolina Press, 1989.
- Andrews, Abraham D. Papers, 1861-1883. Transcript in the hand of Abraham D. Andrews. Special Collections, McIntyre Library, University of Wisconsin-Eau Claire, Eau Claire.
- Beaudot, William J. K. and Lance J. Herdegen. *An Irishman in the Iron Brigade: The Civil War Memoirs of James P. Sullivan, Sergt., Company K, 6<sup>th</sup> Wisconsin Volunteers*. New York: Fordham University Press, 1993.
- Brown, Elon Francis. Diary, 1863. Microfilm of transcript in the hand of Elon Francis Brown. Wisconsin State Historical Society.
- Bryant, Edwin E. *History of the Third Regiment of Wisconsin Veteran Volunteer Infantry 1861-1865*. Madison, Wisconsin: Veteran Association, 1891.
- Burch, Newell. Civil War diary, 1862-1865. Transcript in the hand of Newell Burch. Special Collections, McIntyre Library, University of Wisconsin-Eau Claire, Eau Claire.
- Civil War battle visual materials, ca. 1861-ca. 1865. Special Collections, McIntyre Library, University of Wisconsin-Eau Claire, Eau Claire.
- Cook, John. John H. Cook Memoir, 1865. Transcript in the hand of John Cook. Special Collections, McIntyre Library, University of Wisconsin-Eau Claire, Eau Claire.
- Currier, Horrace. Papers, 1861-1863. Typewritten copies of transcript in the hand of Horrace Currier. Wisconsin State Historical Society.
- Dawes, Rufus R. *Service with the Sixth Wisconsin Volunteers*. Edited with an introduction by Alan T. Nolan. Madison: State Historical Society of Wisconsin for Wisconsin Civil War Centennial Commission, 1962.
- Downing, George W. Civil War diary, 1863-1865. Photocopy of transcript in the hand of George W. Downing. Special Collections, McIntyre Library, University of Wisconsin-Eau Claire, Eau Claire.
- Eau Claire Leader. "Pay of Soldiers." McIntyre Library, University of Wisconsin-Eau Claire. Eau Claire: 1863.
- Fisk, Wilbur. *Hard Marching Every Day: The Civil War Letters of Private Wilbur Fisk, 1861-1865*. Foreward by Reid Mitchell. Edited by Emil and Ruth Rosenblatt. Kansas: University Press of Kansas, 1992.
- Haskell, Frank Aretas. *The Battle of Gettysburg*. Madison, Wisconsin: Wisconsin History Commission, 1910.
- Hinkley, Julian Wisner. *A Narrative of Service with the Third Wisconsin Infantry*. Madison, Wisconsin: Wisconsin History Commission, 1912.
- Hinkley, Lucius Dwight. Papers, 1844-1905. Transcript in the hand of Lucius Dwight Hinkley. Special Collections, McIntyre Library, University of Wisconsin-Eau Claire, Eau Claire.

- Hupy, Joseph. Military Geography lecture, September 24, 2008, University of Wisconsin – Eau Claire, Geography 491: Special Topics.
- Hyde, Bill, Editor. *The Union Generals Speak: The Meade Hearings on the Battle of Gettysburg*. Baton Rouge, Louisiana: Louisiana State University Press, 2003.
- Kelly, Reuben. Letters 1862-1864. Typewritten copies of transcript in the hand of Reuben Kelly. Wisconsin State Historical Society.
- Lincoln, Abraham. "The Gettysburg Address: November 18, 1863." *Famous Speeches of Abraham Lincoln*. Edited by William H. Townsend. Freeport, New York: Books for Libraries Press, 1969.
- Otis, George H. Diary, 1861-1864. Manuscript in the hand of George H. Otis. Special Collections, McIntyre Library, University of Wisconsin-Eau Claire, Eau Claire.
- Rhodes, Elisha Hunt. *All for the Union: The Civil War Diary and Letters of Elisha Hunt Rhodes*. Edited by Robert Hunt Rhodes. Foreward by Geoffrey C. Ward. New York: Orion Books, 1985.
- Tzu, Sun. *The Art of War*. Translated and with an introduction by Samuel B. Griffith. Foreward by B.H. Liddell Hart. New York: Oxford University Press, 1963.
- Welles, Gideon. *Diary of Gideon Welles: Volume I, 1861-March 30, 1864*. Introduction by John T. Morse, Jr. New York: Houghton Mifflin Company, 1911.
- Wisconsin History Commission. Papers, 1861-1865, 1884-1918. Transcript of letters in the hand of Frank A. Haskell. Special Collections, McIntyre Library, University of Wisconsin-Eau Claire, Eau Claire.
- United States Civil War photographs, 1861-1865, 1890. Special Collections, McIntyre Library, University of Wisconsin-Eau Claire, Eau Claire.

#### Secondary Sources

- Andreano, Ralph. *The Economic Impact of the American Civil War*. Cambridge: Schenkman Publishing Company, Inc., 1967.
- Cartledge, Paul. *Thermopylae: The Battle that Changed the World*. New York: Random House Inc., 2007.
- Catton, Bruce. *The Battle of Gettysburg*. New York: American Heritage Publishing Co., Inc., 1963.
- Catton, Bruce. *Gettysburg: The Final Fury*. Garden City, New York: Double Day & Company, Inc., 1974.
- Coddington, Edward B. *The Gettysburg Campaign: A Study in Command*. New York: Charles Scribner's Sons, 1968.
- Collins, John M. *Military Geography for Professionals and the Public*. Washington D.C.: Brassey's Publications, 1998.
- Fantina, Robert. *Desertion and the American Soldier: 1776-2006*. New York: Algora Publishing, 2006.
- Fite, Emerson David. *Social and Industrial Conditions in the North During the Civil War*. New York: The Macmillan Company, 1930.
- Foote, Shelby. *The Civil War: A Narrative, Fredericksburg to Meridan*. New York: Random House, 1963.

- Gallagher, Gary W. "Confederate Corps Leaders on the First Day at Gettysburg: A.P. Hill and Richard S. Ewell in a Difficult Debut." *The First Day at Gettysburg: Essays on Confederate and Union Leadership*. Edited by Gary W. Gallagher. Kent, Ohio: Kent State University Press, 1992.
- Gallman, J. Matthew and Susan Baker. "Gettysburg's Gettysburg: What the Battle did to the Borough." *The Gettysburg Nobody Knows*. Edited by Gabor S. Boritt. New York: Oxford University Press, 1997.
- Gates, Paul W. *Agriculture and the Civil War*. New York: Alfred A. Knopf, Inc., 1965
- Gilchrist, David T. and W. Davis Lewis. *Economic Change in the Civil War Era: Proceedings of a Conference on American Economic Institutional Change, 1850-1873, and the Impact of the Civil War Held March 12-14, 1964*. Greenville, Delaware: Eleutherian Mills-Hagley Foundation, 1965.
- Hassler, Jr., Warren W. *Crisis at the Crossroads: The First Day at Gettysburg*. University of Alabama: University of Alabama Press, 1970.
- Herdegen, Lance J. "We have stood by the old flag." *America's Civil War* 20, no. 1 (March 2007): 22-29.
- Herdegen, Lance J., and William J. K. Beaudot. *In the Bloody Railroad Cut at Gettysburg*. Dayton, Ohio: Morningside House, Inc., 1990.
- Hess, Earl J. *The Union Soldier in Battle: Enduring the Ordeal of Combat*. Lawrence: University Press of Kansas, 1997.
- Holcomb, Julie. "Timothy Webster survived Fredericksburg and Gettysburg with the Iron Brigade, but not Petersburg." *America's Civil War* 16, no. 6 (January 2004): 66.
- Hudziak, Mark. "Rufus R. Dawes led the 6<sup>th</sup> Wisconsin Infantry through storms of shot and shell." *America's Civil War* 18, no. 18 (March 2005): 18-72.
- Hutson, James L. *Calculating the Value of the Union: Slavery, Property Rights, and the Economic Origins of the Civil War*. Chapel Hill: University of North Carolina Press, 2003.
- Jimerson, Randall C. *The Private Civil War: Popular Thought During the Sectional Conflict*. Baton Rouge: Louisiana State University Press, 1988.
- Klement, Frank L. *Wisconsin and the Civil War*. Madison: State Historical Society of Wisconsin for Wisconsin Civil War Centennial Commission, 1963.
- Linderman, Gerald F. *Embattled Courage: The Experience of Combat in the American Civil War*. New York: The Free Press, 1987.
- Macksey, Kenneth. *The History of Land Warfare*. New York: The Two Continents Publishing Group LTD, 1974.
- Madaus, Howard Michael, and Richard H. Zeitlin. *The Flags of the Iron Brigade*. Madison: Wisconsin Veterans Museum, 1997.
- Martin, David G. *Gettysburg July 1*. Cambridge, Massachusetts: Da Capo Press, 1995.
- McPherson, James M. *For Cause and Compromise: Why Men Fought in the Civil War*. Oxford: Oxford University Press, 1997.
- Merk, Frederick. *Economic History of Wisconsin during the Civil War Decade*. Madison: The Society, 1916.
- Miller, Randall M., Harry S. Stout, and Charles Reagan Wilson. *Religion and the American Civil War*. With an afterword by James M. McPherson. New York: Oxford University Press, 1998.

- Morris, James P. *America's Armed Forces: A History*. New Jersey: Prentice-Hall, Inc., 1996.
- Moy, Richard H. "One Blond Goose." *Civil War Times Illustrated* 35, no. 6 (December 1996): 128.
- Nolan, Alan T. *The Iron Brigade: A Military History*. New York: The MacMillan Company, 1961.
- O'Sullivan, Patrick Michael, and Jesse W. Miller. *The Geography of Warfare*. New York: St. Martin's Press, 1983.
- O'Sullivan, Patrick Michael. *Terrain and Tactics*. New York: Greenwood Press, 1991.
- Palka, Eugene Joseph, and Francis A. Galgano. *Military Geography: From Peace to War*. Boston, McGraw-Hill Custom Publishing, 2005.
- Peltier, Louis C., and G. Etzel Percy. *Military Geography*. Princeton: Van Nostrand, 1966.
- Persico, Joseph E. *My Enemy, My Brother: Men and Days of Gettysburg*. New York: The Viking Press, 1977.
- Putnam, William Clement. *Map Interpretation with Military Applications*. New York: McGraw-Hill Book Company, Inc., 1943.
- Robertson Jr., James I. *Soldiers Blue and Gray*. Columbia: University of South Carolina Press, 1988.
- Sears, Stephen W. *Gettysburg*. Boston, New York: Houghton Mifflin Company, 2004.
- Simpson, Lewis P. *Mind and the American Civil War: A Meditation on Lost Causes*. Baton Rouge: Louisiana State University Press, 1989.
- Stephenson, Michael. *Battlegrounds: Geography and the History of Warfare*. Washington D.C.: National Geographic, 2003.
- Surdam, David G. *Northern Naval Superiority and the Economics of the American Civil War*. Columbia: University of South Carolina Press, 2001.
- U.S. Department of the Interior. National Park Service. *Gettysburg National Military Park, Pennsylvania*. Map, 1981.
- Wert, Jeffrey D. *A Brotherhood of Valor: The Common Soldiers of the Stonewall Brigade, C.S.A., and the Iron Brigade, U.S.A.* New York: Simon & Schuster, 1999.
- Winters, Harold A. *Battling the Elements: Weather and Terrain in the Conduct of War*. Baltimore: Johns Hopkins University Press, 1998.
- Woodward, Rachel. *Military Geographies*. Malden: Blackwell Publications, 2004.
- Woodworth, Steven E. *Beneath a Northern Sky: A Short History of the Gettysburg Campaign*. Wilmington, Delaware: Scholarly Resources Inc., 2003.
- Zabecki, David T. "Why Terrain Matters." *Military History* 25, no. 5 (November/December 2008): 54-61.